

REMARKS

Claims 1-19, 24, 29, 36, and 41 were canceled in previous amendments. Claims 20-23, 26-28, 31-35, 38-40, and 43 have been amended herein. New claims 44-47 have been added. Claims 20-23, 25-28, 30-35, 37-40, and 42-47 are currently pending.

Claims 20-21 and 32-33 have been amended to further define the invention and to improve the readability of the claims. First, the phrase “wherein K_m and V_{max} of the lyase for 9-hydroperoxylinolenic acid are greater than K_m and V_{max} of the lyase for 9-hydroperoxylinoleic acid” has been removed from each of these claims and re-written, respectively, as new claims 44-47. Next, the phrase “wherein the lyase has an amino acid sequence present in a protein isolated from *Cucumis melo*” has been deleted from each of these claims. Lastly, Claims 20-21 and 32-33 have been amended to recite a fatty acid hydroperoxide lyase “comprising the amino acid sequence SEQ ID NO:7, wherein the lyase has a 9-HPL function.” Support for this amendment to each of Claims 20-21 and 32-33 can be found, *inter alia*, in their respective dependent claims 26, 31, 38, and 43. Support for this amendment can also be found in the specification at page 10, lines 3-6, and at page 17, lines 25-26.

As a result of the amendments to Claims 20-21 and 32-33, Claims 26, 31, 38, and 43 have been amended for consistency. Also, to preserve antecedency, the dependencies of Claims 22-23, 27-28, 34-35, and 39-40 have been corrected.

No new matter has been added by these amendments; therefore, Applicants request that the examination continue on the claims submitted herewith.

Response to Rejections

In the Office Action, the Examiner asserts that claims 20-23, 26-28, 31-35, 38-40, and 43 are rejected under § 112, first and second paragraph.

Specifically, the Examiner alleges that the phrase “wherein the lyase has an amino acid sequence present in a protein isolated from *Cucumis melo*” has two meanings and is indefinite and confusing under § 112, second paragraph. Applicants have deleted this phrase from the claims and this rejection is believed to be obviated.

Next, the Examiner made reference to earlier rejections under § 112, first paragraph, which were lodged in the Office Actions dated August 6, 2004, and January 26, 2005. In these Office Actions, it was alleged that the specification failed to identify any other hydroperoxide

lyase having the particular kinetic properties recited in the independent claims. However, the Examiner did indicate that "limiting independent claims 21, 22, 32, and 33 to a *Cucumis melo* lyase would obviate all rejections" (page 3 of the current Office Action). Further, the Examiner noted that Claims 25, 30, 37, and 42, which recite SEQ ID NO:7, contain allowable subject matter.

While Applicants disagree with the rejections, Applicants have amended the claims in order to facilitate the prosecution of this application. In particular, Applicants have incorporated structural features of the lyase into independent claims 20-21 and 32-33 by listing amino acid sequence SEQ ID NO:7. The Examiner has acknowledge that Claims 25, 30, 37, and 42, which recite SEQ ID NO:7 contain allowable subject matter. As such, Applicants believe that such amendments comply with the Examiner's suggestion and the claims are believed to be allowable.

Lastly, the Examiner states that Claims 25, 30, 37, and 42 are objected to for containing non-elected subject matter of SEQ ID NO: 15. Applicants note that references to SEQ ID NO: 15 in these claims were deleted by the Amendment filed on March 28, 2005.

CONCLUSION

In light of these amendments and arguments, Applicants respectfully submit that the claims are in condition for allowance and, accordingly, request notification of same.

A Form PTO-2038 authorizing payment by credit card in the amount of \$120.00 is enclosed for the One-Month Extension of Time. No additional fees are believed to be due; however, the Commissioner is hereby authorized to charge any fees which may be required or credit any overpayment to Deposit Account No. 14-0629.

Respectfully submitted,
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CERTIFICATE OF MAILING UNDER 37 C.F.R. § 1.8

I hereby certify that this AMENDMENT AND RESPONSE TO OFFICE ACTION, and any documents referenced herein as being enclosed, is being deposited with the United States Postal Service as first class mail in a stamped envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 23313-1450, on the date indicated below.

Tina W. McKeon

August 9, 2005
Date